

## CLAIMS

What is claimed is:

1. A system comprising:  
a user location system configured to determine a user's location within a room; and  
a noise profile processing unit configured to produce a remedial noise profile specific to the user's location for use in reducing user-perceivable noise at the user's location.
2. The system of claim 1, wherein the user location system is configured to determine a user's location by triangulating the user's position within the room.
3. The system of claim 1 further comprising a receiver configured to receive transmitted data associated with a noise profile associated with the user's location, wherein the noise profile processing unit is configured to produce the remedial noise profile from the transmitted noise profile.
4. The system of claim 1 further comprising a receiver configured to receive transmitted data associated with a noise profile associated with the user's location, wherein the noise profile processing unit is configured to produce the remedial noise profile from the transmitted noise profile, wherein the receiver is configured to receive the transmitted data from a user wearable device.

5. The system of claim 1 further comprising a speaker controller for controlling a plurality of speakers operably associated with the room, and wherein the system is configured to select and drive, via the speaker controller, one or more speakers proximate the user's location.

6. The system of claim 1, wherein the system is configured to produce a remedial noise profile responsive to a change in one or more of the user's location and the ambient sound associated with the user's location.

7. The system of claim 1, wherein the system is configured to use a previously used remedial noise profile responsive to change in the user's location.

8. A system comprising:

a room;

a speaker array comprising multiple speakers positioned around the room;

a user location system configured to determine a user's location within the room;

a noise profile processing unit configured to produce a remedial noise profile from data transmitted from one or more user-wearable devices, said transmitted data being associated with a noise profile that is associated with the user's location, said remedial noise profile being specific to the user's location and configured for use in reducing user-perceivable noise at the user's location; and

a speaker controller for controlling speakers of the speaker array, the speaker controller being configured to select speakers proximate the user's location and drive the selected speakers with a signal that embodies the remedial noise profile.

9. The system of claim 8, wherein at least some of the speakers are mounted in a room ceiling.

10. The system of claim 8, wherein at least some of the speakers are mounted on at least one server rack within the room.

11. The system of claim 8, wherein the user location system comprises means for triangulating the user's location.

12. The system of claim 8 further comprising one or more user-wearable devices each configured to transmit data associated with a noise profile associated with the user's location, wherein said one or more user-wearable devices comprise a noise receiving unit for receiving ambient noise associated with the user's location and a processor for producing, from the ambient noise, said noise profile data.

13. The system of claim 8 further comprising one or more user-wearable devices each configured to transmit data associated with a noise profile associated

with the user's location, wherein said one or more user-wearable devices comprise a noise receiving unit for receiving ambient noise associated with the user's location and a processor for producing, from the ambient noise, said noise profile data, wherein said one or more user-wearable devices each comprise a unique ID, each device being configured to transmit its unique ID with its associated noise profile data.

14. The system of claim 8, wherein the system is configured to produce a remedial noise profile responsive to change in one or more of the user's location and the noise profile associated with the user's location.

15. The system of claim 8, wherein the noise profile processing unit comprises at least:

an A/D converter for receiving an analog signal and producing a corresponding digital signal;

a digital signal processor for receiving the corresponding digital signal and producing a remedial noise profile; and

a D/A converter for receiving the remedial noise profile and producing the signal that embodies the remedial noise profile.

16. The system of claim 8, wherein the noise profile processing unit comprises at least:

a phase shifter configured to phase shift an analog signal to provide a remedial noise profile; and

an amplifier connected with the phase shifter and configured to amplify the remedial noise profile for driving one or more speakers of the speaker array.

17. A system comprising:

a user wearable device comprising:

a noise receiving unit to receive ambient noise associated with a user's location within a room;

a processor configured to process the received ambient noise to ascertain a noise profile associated with the user's location;

a device ID that uniquely identifies the device; and

a transmitter configured to transmit both data associated with the noise profile and the device ID to an off-device location so that the noise profile and device ID can be utilized to ascertain the user's location and produce a remedial noise profile that can be used in reducing user-perceivable noise at the user's location.

18. The system of claim 17, wherein the user-wearable device comprises a badge.

19. A method comprising:

receiving ambient noise associated with a user's location within a room in which multiple servers reside;  
producing a noise profile from the ambient noise;  
transmitting data associated with the noise profile to a noise reduction unit;  
and  
transmitting an ID that uniquely identifies the user for location determination.

20. The method of claim 19, wherein said act of receiving is performed by a user-wearable device.

21. The method of claim 19, wherein said act of receiving is performed by a user-wearable device, and said act of transmitting an ID comprises transmitting a device ID that uniquely identifies the user-wearable device.

22. A method comprising:

receiving transmitted data associated with a noise profile of ambient noise associated with a user's location within a room;  
ascertaining the user's location within the room;  
responsive to ascertaining the user's location within the room, selecting one or more speakers proximate the user's location;  
processing the noise profile data to produce a remedial noise profile that can be used to reduce the noise to which the user is exposed in the room; and

using the remedial noise profile in driving said selected one or more speakers.

23. The method of claim 22, wherein said act of ascertaining the user's location is performed by triangulating the user's location using a signal transmitted from a user-wearable device.

24. The method of claim 22, wherein said act of ascertaining the user's location is performed by triangulating the user's location using a signal transmitted from a user-wearable device, and wherein the signal that is transmitted comprises the noise profile data.

25. The method of claim 22 further comprising ascertaining whether the user's location changes and if so:

receiving transmitted data associated with a noise profile at a new location;

ascertaining the user's new location;

responsive to ascertaining the user's new location within the room,

selecting one or more speakers proximate the user's new location;

processing the noise profile data associated with the new location to

produce a new remedial noise profile that can be used to reduce the noise to which the user is exposed in the room; and

using the new remedial noise profile in driving said selected one or more speakers proximate the user's new location.

26. The method of claim 22 further comprising ascertaining whether the user's location changes and if so:

receiving transmitted data associated with a noise profile at a new location;  
ascertaining the user's new location;

responsive to ascertaining the user's new location within the room,  
selecting one or more speakers proximate the user's new location;

processing the noise profile data associated with the new location to  
ascertain whether a new remedial noise profile is needed for the new location;

if a new remedial noise profile is needed for the new location:

processing the noise profile data associated with the new location to  
produce a new remedial noise profile that can be used to reduce the noise  
to which the user is exposed in the room at the new location; and

using the new remedial noise profile in driving said selected one or  
more speakers proximate the user's new location;

otherwise, using the first-mentioned remedial noise profile in driving said  
one or more speakers proximate the user's new location.

27. The method of claim 22 further comprising ascertaining whether the user's location noise profile changes and if so:

receiving transmitted data associated with a new noise profile;



processing the new noise profile data to produce a new remedial noise profile that can be used to reduce the noise to which the user is exposed in the room; and

using the new remedial noise profile in driving said selected one or more speakers.

28. The method of claim 22 further comprising responsive to both the user's location changing and the location noise profile changing:

receiving transmitted data associated with a noise profile at a new location;

ascertaining the user's new location;

responsive to ascertaining the user's new location within the room,

selecting one or more speakers proximate the user's new location;

processing the noise profile data associated with the new location to produce a new remedial noise profile that can be used to reduce the noise to which the user is exposed in the room; and

using the new remedial noise profile in driving said selected one or more speakers.

29. A system comprising a user wearable device and a noise reduction unit associated with a room in which multiple servers are located, the user wearable device and the noise reduction unit cooperating to facilitate an adaptive reduction in ambient noise proximate the user wearable device as the device is moved from location to location within the room.

30. A system comprising:

means for receiving transmitted data associated with a noise profile of ambient noise associated with a user's location within a room in which multiple servers are located;

means for ascertaining the user's location within the room;

means, responsive to said means for ascertaining the user's location within the room, for selecting one or more drivable speakers proximate the user's location;

means for processing the noise profile data to produce a remedial noise profile that can be used to reduce the noise to which the user is exposed in the room; and

means for using the remedial noise profile in driving said selected one or more speakers.